

REMARKS/ARGUMENTS

Claims 1-14 have been withdrawn from consideration and are being canceled herein.

Claim 21 is pending but was not mentioned in the Office Action. For this reason, the finality of the rejection is requested to be withdrawn.

As discussed in a telephone interview on June 8, 2006, the Examiner is requested to allow claim 18 for the reasons stated in the Examiner's Interview Summary. Claim 18 (paraphrased) is supported by paragraphs 35-38 and recites that a detector detects the contact position between the polishing element and the workpiece by detecting an electrical characteristic of the motor, such as a magnetic field or a current. Numoto et al. has a Hall sensor, which detects proximity between two elements (col. 9, line 59 - col. 10, line 6), but Numoto does not disclose "...detecting said contact position by detecting an electrical characteristic of said rotary driving unit" Claim 21 is identical to claim 16 and recites that the cutting depth of the abrasive grains is 10nm or less. This feature is remarkable in the context of the parent claim 18, in that the novel sensor of claim 18, by detecting the contact position, makes it possible to control the cutting depth down to below 10nm. New claims 22 and 23 recite additional features of the apparatus of claim 18. Allowance of claims 18 and its dependent claims 19, 21, 22 and 23 is therefore requested.

Claims 15 and 20 were rejected as being anticipated by Fivian. Claim 16 was rejected as being obvious over Fivian.

Claim 15 recites "a driving unit for moving at least one of the rotating shaft and the workpiece in the vertical direction, horizontally in the longitudinal direction of the rotating shaft, and in the transverse direction along the side face of the grooves" Fivian does not have the claimed movement of the grinding wheel in three directions with respect to the workpiece. Col. 3, lines 7-9 explicitly state that "during the grinding operation there is not required any movement in the lengthwise direction of the teeth."

Claim 15 recites, moreover, "detecting the position where the polishing element is in contact with the workpiece." Fivian has a feeler 11 which periodically detects the dimensions of the grinding wheel, but does not detect a position where the polishing element is in contact with the workpiece.

The comments on claim 15 from previous amendments are incorporated by reference. For

at least the foregoing reasons, allowance of claim 15 and its dependent claims 16 and 20 is requested.

New claim 24 depends from claim 15 and recites that "said detector detects a condition in which said polishing element is in contact with the workpiece." New claim 25 depends from claim 24 and recites that "said detector detects said condition by sensing an electrical characteristic of said rotary driving unit." New claim 26 depends from claim 25 and recites that "said detector detects said contact position by detecting a threshold of said electrical characteristic." See paragraph [0035].

In view of the foregoing amendments and remarks, the Examiner is requested to allow claims 15, 16 and 18-26 and pass this case to issue.

FACSIMILE CERTIFICATE

I hereby certify that this correspondence is being sent via facsimile (571) 273-8300 to: Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on June 19, 2006:

James A. Finder

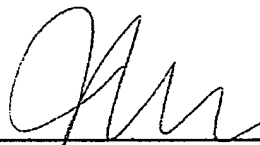
Name of applicant, assignee or
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Signature

June 19, 2006

Date of Signature

Respectfully submitted,



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